

AD-A140 893 19321 AT MLRS MISSILE NUMBER 6721 6722 6719 6715 6716 1/1

AD-A140 893 19321 AT MLRS MISSILE NUMBER 6721 6722 6719 6715 6716 1/1

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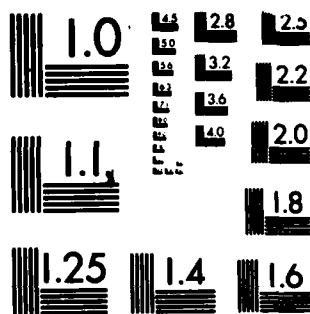
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TIME**

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MICROCOPY RESOLUTION TEST CHART
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METEOROLOGICAL DATA REPORT

19321 AT MLRS

Missile Number 6721, 6722, 6719, 6715, 6716, and 6718

ROUND NUMBER V-575/FB-18 thru V-580/FB-23

7 March 1984

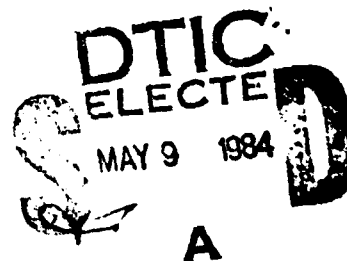
by

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19321 AT MLRS, Missile Number 6721, 6722, 6719, 6715, 6716, and 6718, Round Number V-575/FB-18 thru V-580/FB-23		

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INTRODUCTION

19321 AT MLRS, Missile Numbers 6721, 6722, 6719, 6715, 6716, and 6718, Round Numbers V-575/FB-18 thru V-580/FB-23, were launched from Tula Gate, White Sands Missile Range (WSMR) New Mexico, at 1036:18, 1036:22, 1037:27, 1036:31, 1036:36, and 1036:40 MST 7 Mar 84. The scheduled launch times were 1000 MST with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the Tula Gate Met Sites at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometer at Tula Gate. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low Level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

Tula Gate	1350 Meters
Mal	2000 Meters

(2) Air structure data (rawinsonde) were collected at the following Met Sites:

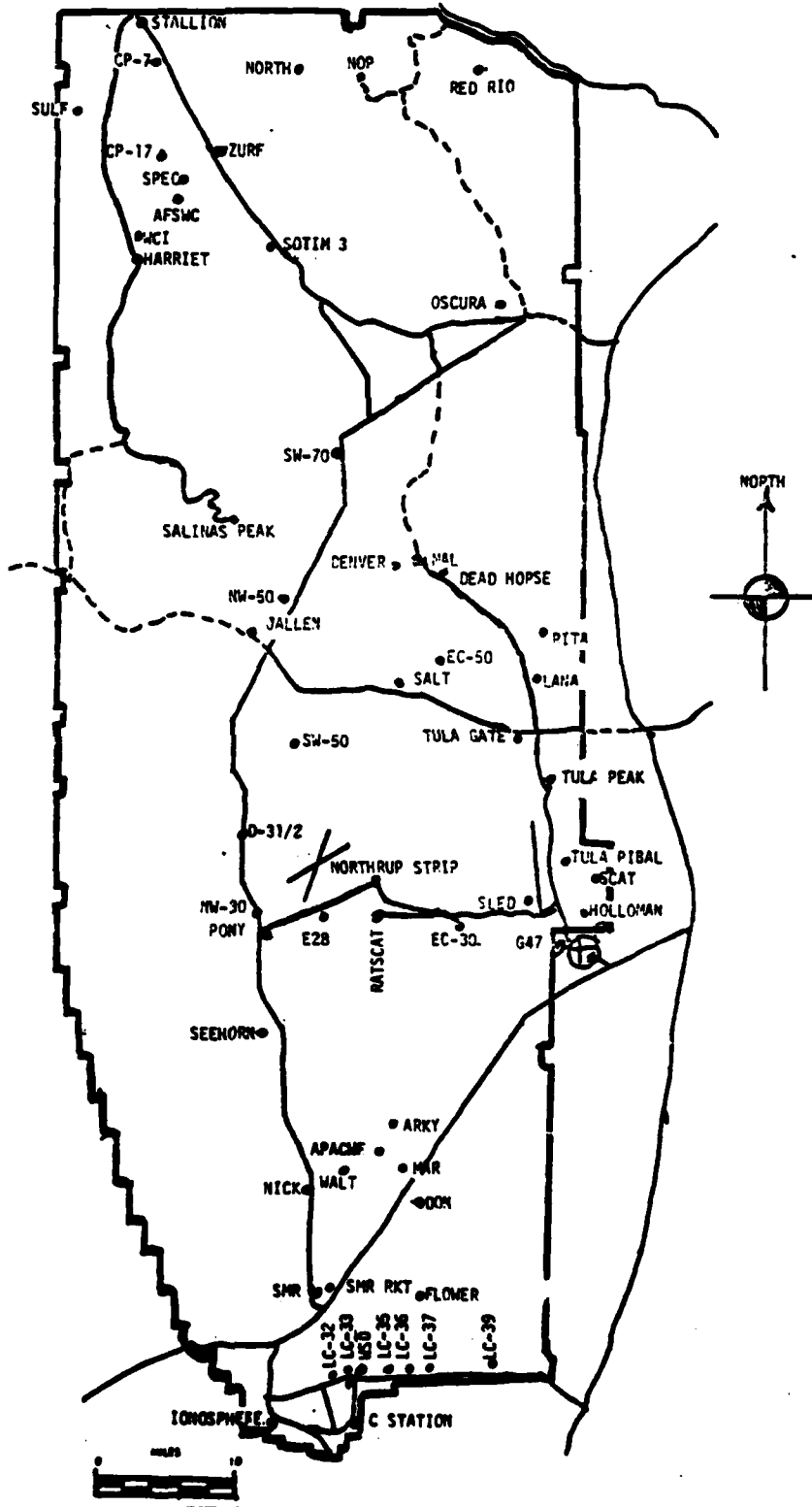
SITE AND TIME

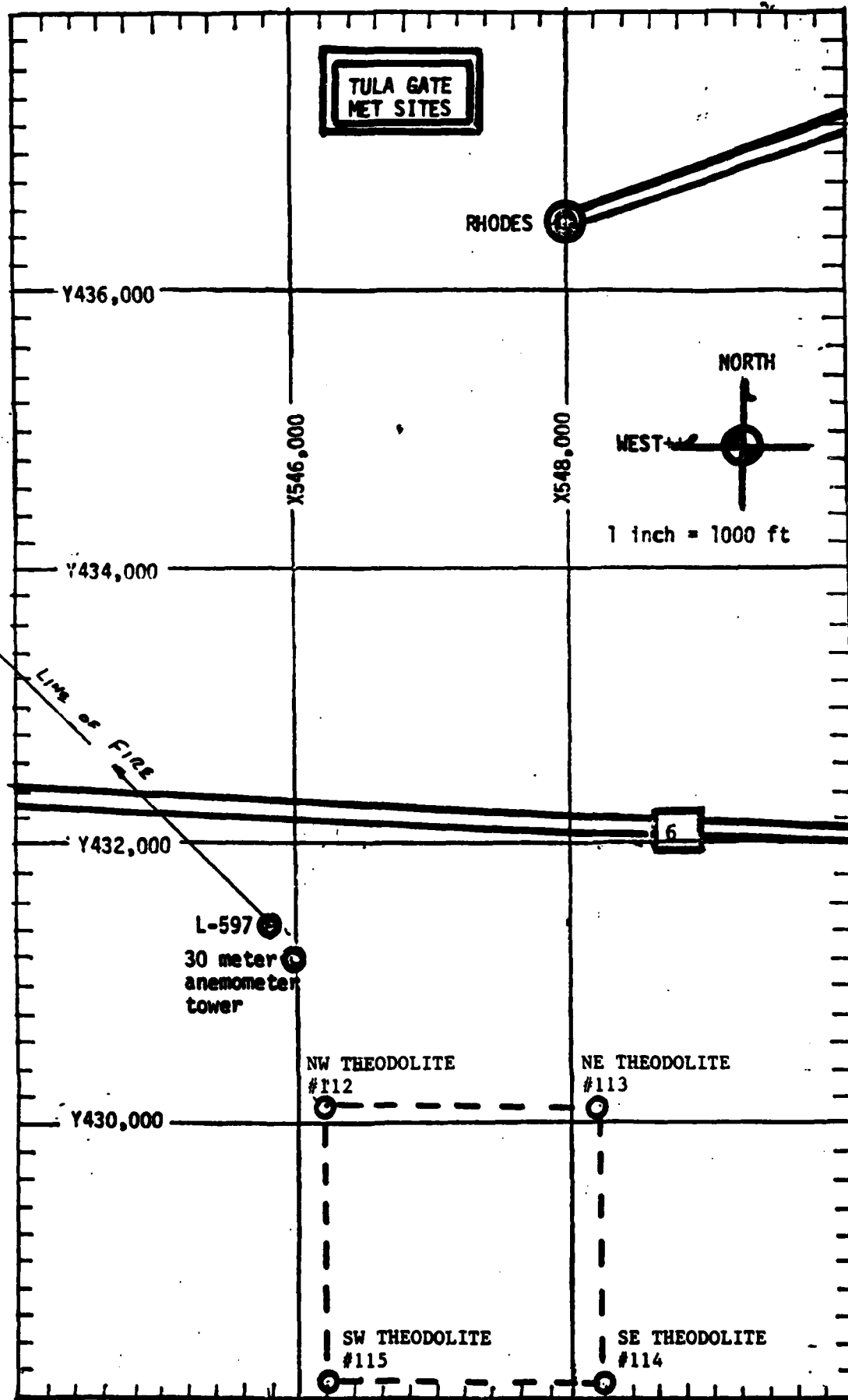
Rita	0815 MST
Lana	0915 MST
Lana	1036 MST
Rita	1036 MST



A-1

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1										
STATION TULA										
DATE 07		03		84		Y= 431.158.70		H= 4102.47		
DAY		MONTH		YEAR						
TIME	TYPE	PRESSURE	TEMPERATURE	DEW POINT	RELATIVE	DENSITY	WIND	CHARACTER	VISIBIL- ITY	
M S T		mbs	OF OC	OF OC	HUMIDITY %	gm/cc	DIRECTION degs In	SPEED kts	kts	
1038		882.3	9.8	-6.6	31		260	2.0	-	40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	HGT	AMT	TYPE	HGT	
CLEAR							

PSYCHROMETRIC COMPUTATION

TIME: MST	1038	
DRY BULB TEMP.	9.8	
WET BULB TEMP.	3.0	
WET BULB DEPR.	6.8	
DEW POINT	-6.6	
RELATIVE HUMID.	31	

TABLE 2

ANEMOMETER DATA - 30 Ft Level of 30 Meter Tower

X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

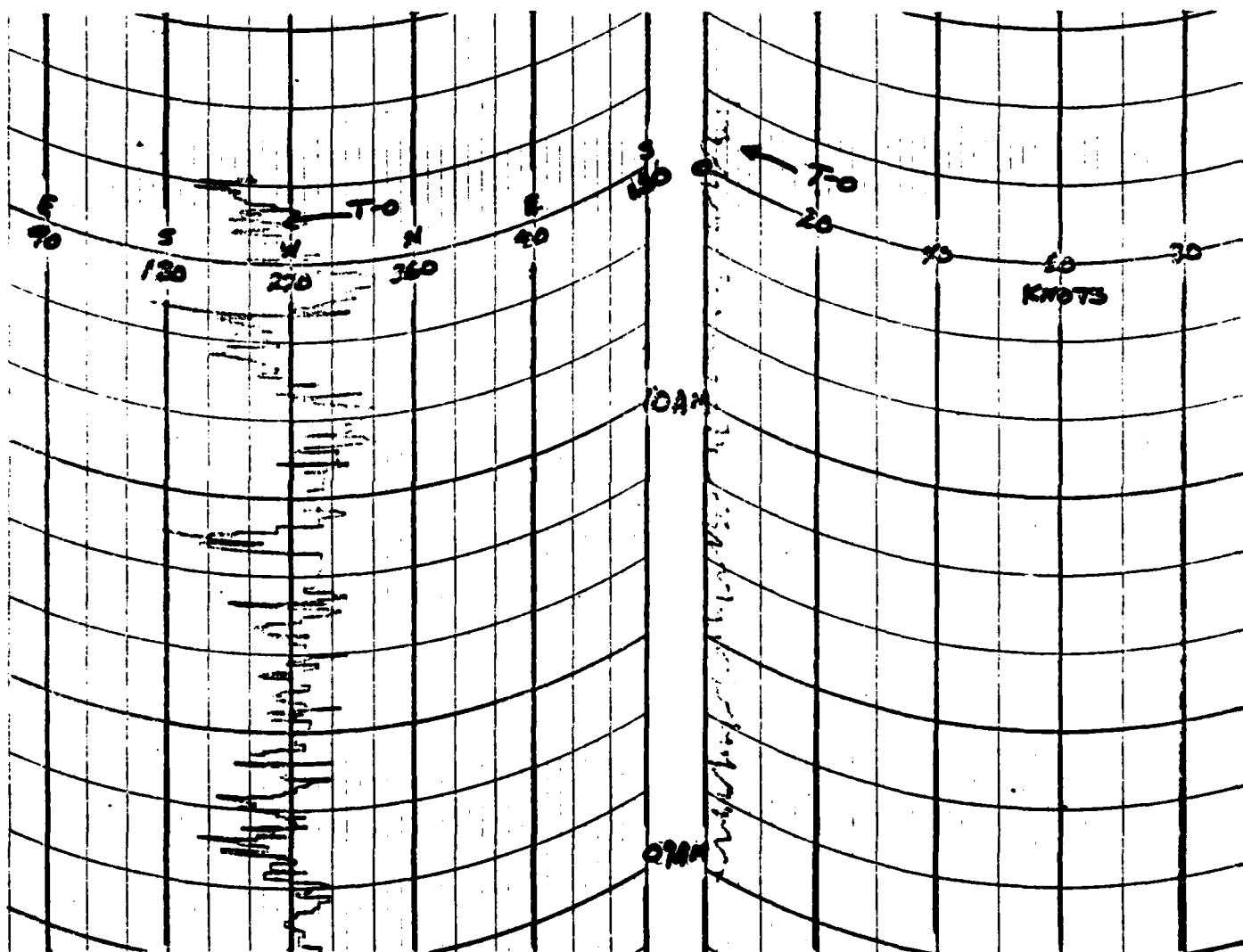


TABLE 3

ANEMOMETER DATA - 60 Ft Level of 30 Meter Tower
X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

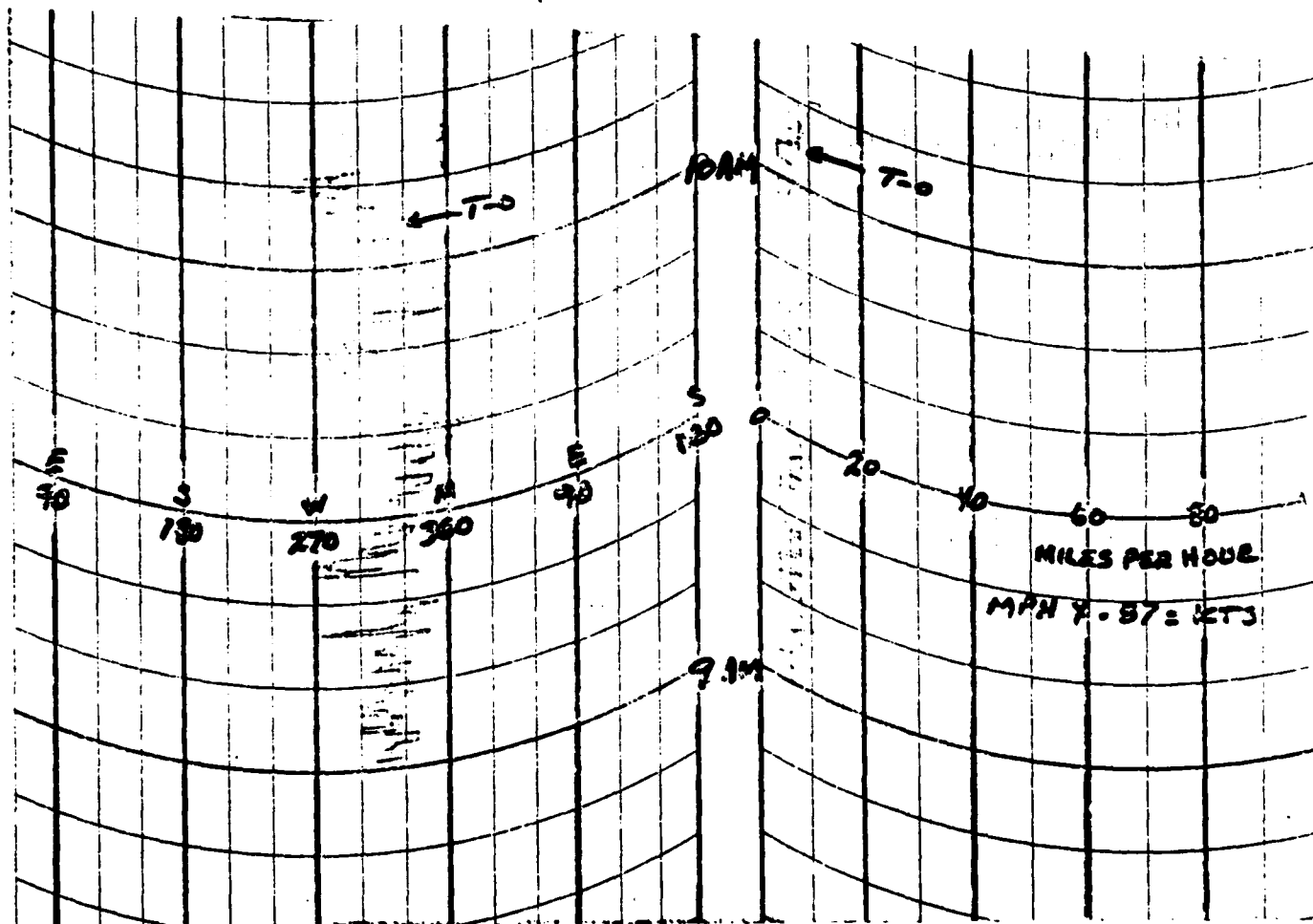


TABLE 4

ANEMOMETER DATA - 90 Ft Level of 30 Meter Tower
X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

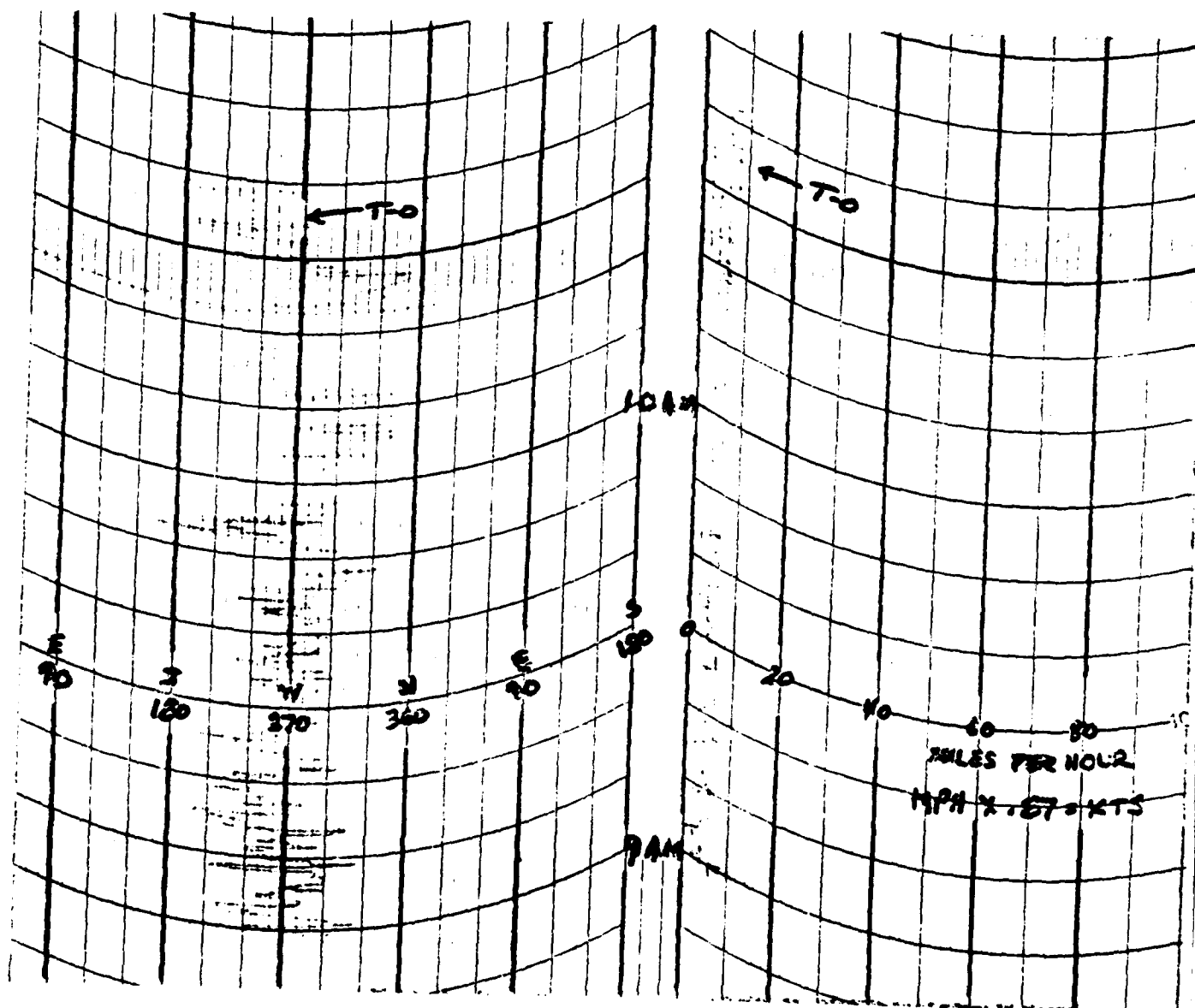


TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 07 March 1984

SITE: TULA GATE

TIME: 1035 MST

WSTM COORDINATES:

X= 546,204.20

Y= 430,125.39

H= 4,108.59

SITE: MAL

TIME 1036 MST

WSTM COORDINATES:

X=509,421.05

Y=479,563.78

H= 4,133.09

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	260	02
150	240	03
210	256	03
270	284	03
330	284	03
390	280	04
500	285	05
650	299	04
800	318	03
950	008	02
1150	347	03
1350	331	08
1550		
1750		
2000		

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	270	04
150	269	03
210	268	03
270	267	03
330	266	02
390	269	02
500	275	03
650	281	04
800	279	05
950	278	07
1150	282	08
1350	282	10
1550	277	12
1750	277	14
2000	282	16

Data obtained from a Single
Theodolite tracked pilot-balloon
observation.

Data obtained from a Double
Theodolite tracked pilot-balloon
observation.

07 March 1984

Rita 0815 MST
METCM1332062
071530128880
00000000 27390880
01610002 27700869
02275003 27670843
03430002 27520802
04548005 27100754
05543020 27330708
06570023 27170665
07571025 26800624
08563026 26420585
09570028 26030549
10581027 25610514
11568031 25230480
12560040 34730434

Lana 0915 MST
METCM1331062
071630127879
00000000 28100879
01553003 27920869
02226001 27710842
03462002 27470802
04545007 27140753
05546018 27430707
06580019 27180665
07588020 26780624
08563024 26400585
09565027 26010548
10575029 25620513
11567032 25250480
12548045 24820433

Lana 1036 MST
METCM1331062
071760127879
00427003 28460879
01509004 28240868
02520004 27970842
03547002 27590802
04594008 27400754
05518014 27550708
06553011 27240666
07559015 26870625
08542019 26490586
09548024 26120550
10553029 25750515
11543031 25340481
12532044 23800435

Rita 1036 MST
METCM1332062
071760128879
00427002 28180879
01294004 28150868
02482005 27890842
03537004 27530802
04592006 27390753
05519014 27540708
06535010 27230665
07558013 26850625
08543018 26460586
09547022 26080549
10555027 25700514
11545029 25280481
12530039 24700434

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

SIGNIFICANT LEVEL DATA
U67021000
PITA

TABLE 7

STATION ALTITUDE 4186.74 FEET MSL
7 MAR. 84
CR15 11RS MST
ASCENSION NO. 9

PRESSURE	GEOMETRIC	TEMPERATURE	REL. HUM.
ALTITUDE	ALTITUDE	AIR DEWPOINT	PERCENT
MILLIBARS	MSL FEET	DEGREES CENTIGRADE	
979.9	4186.7	-2	51.0
977.9	4247.0	3.7	50.0
950.0	5107.6	3.7	48.0
911.8	6370.7	2.9	43.0
769.6	7779.0	-1.4	39.0
744.0	8621.4	-3.2	32.0
734.3	8962.4	-3.4	26.0
721.1	9476.4	-1.1	24.0
705.9	9996.5	-2.2	24.0
700.0	10217.6	0.9	25.0
688.8	11416.2	-1.4	27.0
563.0	15842.0	-11.3	24.0
500.0	18792.2	-18.9	21.0
465.6	20525.7	-22.6	33.0
454.1	21178.5	-23.4	32.0
400.0	24140.0	-30.2	33.0
359.1	26635.2	-36.1	33.0
349.3	27267.0	-36.5	33.0

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

UPPER AIR DATA
0670210000
PITA
TABLE 8

STATION ALTITUDE 4186.74 FEET MSL
7 MAR. 84
0815 HRS MST
ASCENSION NO. 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	TEMPERATURE DEWPOINT CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4186.7	879.9	.2	-8.7	51.0	1110.8	644.5	.0	.0	1.000266
4500.0	869.6	3.6	-6.8	46.5	1093.1	648.6	194.4	.3	1.000262
5000.0	853.4	3.3	-9.2	39.5	1074.1	648.1	194.4	.9	1.000254
5500.0	837.6	3.1	-10.4	36.4	1054.9	647.9	194.8	1.5	1.000249
6000.0	822.0	3.0	-11.2	34.4	1035.7	647.8	196.7	2.0	1.000244
6500.0	806.6	2.4	-11.9	33.7	1018.7	647.0	229.3	2.0	1.000239
7000.0	791.5	.9	-12.5	35.9	1005.1	645.2	255.3	2.4	1.000236
7500.0	776.6	-7	-13.2	38.0	991.8	643.4	279.4	2.7	1.000232
8000.0	761.9	-1.9	-14.7	36.9	977.7	641.9	297.4	5.0	1.000228
8500.0	747.5	-3.0	-16.9	33.0	962.9	640.6	303.4	8.8	1.000223
9000.0	733.2	-3.1	-19.9	25.8	945.4	640.4	305.4	12.8	1.000217
9500.0	719.4	-1	-18.2	24.0	917.1	644.0	306.2	16.9	1.000212
10000.0	705.8	-2	-18.3	24.0	900.1	643.9	308.1	19.8	1.000208
10500.0	692.5	.4	-17.1	25.5	881.3	644.6	310.0	21.5	1.000204
11000.0	679.5	-6	-17.6	26.3	867.7	643.4	315.4	22.2	1.000201
11500.0	666.6	-1.6	-18.1	27.0	854.4	642.3	320.2	22.9	1.000198
12000.0	653.8	-2.7	-19.0	27.3	841.5	640.9	321.0	23.7	1.000195
12500.0	641.2	-3.8	-19.8	27.5	828.7	639.6	323.9	24.4	1.000191
13000.0	628.8	-4.9	-20.7	27.7	816.2	638.2	321.4	24.9	1.000188
13500.0	616.7	-6.1	-21.6	27.9	803.8	636.9	319.2	25.2	1.000185
14000.0	604.8	-7.2	-22.5	28.2	791.7	635.5	317.3	25.3	1.000182
14500.0	593.2	-8.3	-23.4	28.4	779.8	634.2	316.3	25.6	1.000179
15000.0	581.8	-9.4	-24.2	28.6	768.0	632.8	316.2	26.0	1.000176
15500.0	570.5	-10.5	-25.1	28.8	756.4	631.5	317.1	26.9	1.000173
16000.0	559.4	-11.7	-26.1	29.1	745.1	630.1	318.4	28.0	1.000170
16500.0	548.3	-13.0	-27.1	29.4	733.9	628.5	321.2	28.4	1.000167
17000.0	537.4	-14.3	-28.1	29.8	722.9	626.9	324.3	28.5	1.000164
17500.0	526.7	-15.6	-29.1	30.1	712.0	625.4	325.4	28.1	1.000162
18000.0	516.2	-16.9	-30.1	30.5	701.4	623.8	326.5	27.5	1.000159
18500.0	505.9	-18.1	-31.1	30.8	690.9	622.2	325.3	27.3	1.000157
19000.0	495.7	-19.3	-32.0	31.2	680.2	620.7	323.4	27.4	1.000154
19500.0	485.7	-20.4	-32.6	31.8	669.2	619.4	320.9	29.9	1.000151
20000.0	475.8	-21.5	-33.6	32.4	658.4	618.1	318.7	32.9	1.000149
20500.0	466.1	-22.5	-34.3	33.0	647.7	616.8	317.1	34.5	1.000146
21000.0	456.5	-23.2	-35.2	32.2	636.2	616.0	316.5	38.4	1.000144
21500.0	447.0	-24.2	-36.1	32.1	625.5	614.7	316.1	39.8	1.000141
22000.0	437.7	-25.4	-37.1	32.3	615.3	613.3	315.5	39.7	1.000139
22500.0	428.6	-26.5	-38.0	32.5	605.2	611.9	314.8	39.9	1.000136
23000.0	419.7	-27.6	-39.0	32.6	595.4	610.5	313.9	40.5	1.000134
23500.0	410.9	-28.8	-40.0	32.8	585.6	609.1	313.2	42.6	1.000132

STATION ALTITUDE 4186.74 FEET MSL
 7 MAR. 84 0815 HRS MST
 ASCENSION NO. 9

UPPER AIR DATA
 04702100G
 PITA

TABLE 11 CONT'D

GEODETIC COORDINATES
 35.18295 LAT DEG
 106.15114 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	402.4	-29.9	33.0	576.1	607.7	312.7	45.4	1.000129
24500.0	393.8	-31.1	33.0	566.6	606.2	313.2	47.6	1.000127
25000.0	385.4	-32.2	33.0	557.2	604.7	314.0	49.7	1.000125
25500.0	377.2	-33.4	33.0	548.0	603.2	315.1	51.8	1.000123
26000.0	369.1	-34.6	33.0	538.9	601.7			1.000121
26500.0	361.2	-35.8	33.0	530.1	600.2			1.000119
27000.0	353.4	-36.3	33.0	519.8	599.5			1.000116

STATION ALTITUDE 4136.74 FEET WSL
7 MAR. 84 0815 HRS PST
ASCENSION NO. 9

MANDATORY LEVELS
UK70210000
RITA

GEODETIC COORDINATES
33.16295 LAT NEG
106.15114 LON DEG

TABLE 9

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5104.	3.2	-9.7	18.	194.8	1.0
800.0	6714.	1.7	-12.2	35.	241.3	2.2
750.0	8405.	-2.4	-16.5	34.	302.8	8.1
700.0	10204.	.9	-16.9	25.	309.4	20.5
650.0	12144.	-3.0	-19.2	27.	323.8	23.9
600.0	14209.	-7.6	-22.8	28.	316.4	25.3
550.0	16410.	-12.4	-26.9	29.	320.7	28.4
500.0	18767.	-18.9	-31.7	31.	324.6	27.2
450.0	21314.	-23.9	-35.8	32.	314.2	19.4
400.0	24102.	-30.2	-41.2	33.	312.9	46.0
350.0	27174.	-36.5	-46.8	33.		

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

SIGNIFICANT LEVEL DATA
0670320009
LAMA

TABLE 10

STATION ALTITUDE 4173.44 FEET "SL
7 MAR. 84
ASCENSION NO. 9

PRESSURE GEOMETRIC ALTITUDE MILLIBARS "SL FEET	TEMPERATURE		REF. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
579.2	7.4	-3.7	45.0
771.0	6.2	-10.5	29.0
550.0	3.1	-10.8	45.0
36.1	3.9	-11.7	31.0
927.7	3.6	-15.6	23.0
58.0	-2.8	-15.8	76.0
744.4	-3.2	-22.9	20.0
731.9	.2	-21.3	16.0
722.1	.2	-21.3	16.0
709.4	1.5	-20.2	16.0
700.0	1.4	-20.3	16.0
490.6	.9	-20.7	18.0
598.2	-8.0	-27.5	19.0
500.0	-18.5	-14.0	24.0
477.8	-21.2	-15.5	26.0
452.0	-22.9	-16.3	28.0
400.0	-29.1	-40.5	32.0
730.2	-38.1	-48.8	31.0

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

UPPER AIR DATA
0670370000
LANA

TABLE 11

STATION ALTITUDE 4173.44 FEET MSL
7 MAR. 84.
0915 HRS MST
ASCENSION NO. 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DWPOINT CENTIGRADE					DIRECTION DEGREES(TN)	SPEED KNOTS	
4173.4	879.2	7.4	-3.7	45.0	1089.5	653.2	.0	162.1	.0	1.000265
4500.0	868.6	5.6	-10.5	30.1	1084.2	650.8	.1	162.1	.1	1.000255
5000.0	852.5	3.4	-10.6	34.3	1072.4	648.3	.4	162.1	.4	1.000252
5500.0	836.7	3.9	-11.6	31.2	1051.0	648.8	.6	162.1	.6	1.000247
6000.0	821.0	3.1	-15.5	24.1	1034.6	647.7	.7	164.1	.7	1.000240
6500.0	805.6	1.7	-15.3	26.9	1020.3	646.1	.8	199.7	.8	1.000237
7000.0	790.5	.3	-15.3	29.7	1006.2	644.5	1.4	256.4	1.4	1.000234
7500.0	775.6	-1.1	-15.5	32.6	997.3	642.8	3.1	281.4	3.1	1.000230
8000.0	761.0	-2.5	-15.7	35.4	978.7	641.2	6.6	301.4	6.6	1.000227
8500.0	746.6	-3.1	-21.5	22.6	962.7	640.3	10.5	307.9	10.5	1.000220
9000.0	732.4	.1	-21.3	15.1	937.3	644.1	13.8	309.5	13.8	1.000214
9500.0	718.6	.6	-21.0	18.0	914.1	644.7	16.3	304.3	16.3	1.000209
10000.0	705.1	1.5	-20.2	18.0	894.0	645.8	18.1	306.9	18.1	1.000205
10500.0	691.9	1.0	-20.6	18.0	878.8	645.2	18.5	312.7	18.5	1.000202
11000.0	678.8	-2.2	-21.5	18.1	865.7	643.9	18.6	318.7	18.6	1.000198
11500.0	665.8	-1.4	-22.4	18.3	852.9	642.4	18.3	325.5	18.3	1.000195
12000.0	653.1	-2.6	-23.3	18.4	840.4	641.0	18.6	329.7	18.6	1.000192
12500.0	640.7	-3.8	-24.2	18.5	828.0	639.6	20.0	332.2	20.0	1.000186
13000.0	628.4	-4.9	-25.1	18.7	815.9	638.2	20.9	330.7	20.9	1.000183
13500.0	616.4	-6.1	-26.1	18.8	803.9	636.7	21.9	327.5	21.9	1.000180
14000.0	604.7	-7.3	-27.0	18.9	792.1	635.3	23.4	322.4	23.4	1.000177
14500.0	593.0	-8.5	-27.8	19.2	780.3	633.9	25.0	315.4	25.0	1.000174
15000.0	581.2	-9.7	-28.5	19.8	768.3	632.5	26.0	315.7	26.0	1.000171
15500.0	569.8	-10.9	-29.2	20.4	756.4	631.1	26.9	316.3	26.9	1.000169
16000.0	558.5	-12.0	-29.9	20.9	744.8	629.6	27.3	316.0	27.3	1.000166
16500.0	547.4	-13.2	-30.6	21.5	733.4	628.2	27.7	319.4	27.7	1.000163
17000.0	536.6	-14.4	-31.3	22.0	722.1	626.8	28.2	320.5	28.2	1.000161
17500.0	526.0	-15.5	-32.1	22.6	711.1	625.4	28.5	323.0	28.5	1.000158
18000.0	515.6	-16.7	-32.8	23.1	700.2	624.0	28.8	324.9	28.8	1.000156
18500.0	505.4	-17.9	-33.6	23.7	689.5	622.5	28.9	325.1	28.9	1.000153
19000.0	495.3	-19.1	-34.3	24.4	679.9	621.1	30.9	321.1	30.9	1.000151
19500.0	485.3	-20.3	-35.0	25.3	668.3	619.6	34.2	316.6	34.2	1.000148
20000.0	475.4	-21.4	-35.6	26.2	657.6	618.3	38.6	312.6	38.6	1.000146
20500.0	465.7	-22.0	-35.9	26.9	645.7	617.5	40.9	309.8	40.9	1.000143
21000.0	456.1	-22.6	-36.2	27.7	634.1	616.7	41.9	307.9	41.9	1.000140
21500.0	446.7	-23.5	-36.7	28.4	622.2	615.6	42.3	306.8	42.3	1.000138
22000.0	437.4	-24.6	-37.4	29.1	610.9	614.3	44.2	304.6	44.2	1.000136
22500.0	428.4	-25.6	-38.1	29.8	602.8	613.0	47.8	302.7	47.8	1.000133
23000.0	419.5	-26.7	-38.8	30.4	592.8	611.7	51.4	305.9	51.4	1.000131
23500.0	410.7	-27.8	-39.6	31.1	581.0	610.3				

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

UPPER AIR DATA
U70520009
1 AMIA

TABLE 11 CONT'D

STATION ALTITUDE 4173.44 FEET MSL
7 MAR. 84 0915 HRS MST
ASCENSION NO. 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DWPOINT CENTIGRADE			SOUND KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS		
24000.0	402.2	-28.8	-40.3	31.8	573.4	609.0		311.2	55.0	1.000129
24500.0	393.7	-30.0	-41.3	31.9	563.9	607.6		310.4	58.7	1.000127
25000.0	385.2	-31.2	-42.4	31.8	554.5	606.1		309.9	61.8	1.000124
25500.0	377.0	-32.3	-43.5	31.6	545.3	604.6		309.0	62.8	1.000122
26000.0	368.9	-33.5	-44.6	31.5	536.2	603.1		309.4	63.3	1.000120
26500.0	361.0	-34.7	-45.7	31.4	527.4	601.6		309.7	63.8	1.000118
27000.0	353.3	-35.9	-46.8	31.2	518.6	600.1		307.8	64.6	1.000116
27500.0	345.7	-37.1	-47.9	31.1	510.1	598.6				1.000114

STATION ALTITUDE 4123.44 FEET MSL
 7 PAR. R4
 ASCENSION NO. 9

MANDATORY LEVELS
 0670320000
 IAMA
 TABLE 12

GEODETIC COORDINATES
 33.15510 LAT DEG
 106.15446 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5075.	3.1	-10.2	15.	162.1	.4	
800.0	6625.	1.2	-15.3	28.	200.4	.9	
750.0	8173.	-3.0	-19.5	27.	107.2	9.7	
700.0	10184.	1.4	-20.3	18.	109.0	18.2	
650.0	12127.	-2.9	-23.5	18.	330.4	18.7	
600.0	14187.	-7.8	-27.4	19.	320.0	22.4	
550.0	16386.	-12.9	-30.4	21.	317.7	27.2	
500.0	18744.	-18.5	-34.0	24.	324.9	28.8	
450.0	21297.	-23.1	-36.4	28.	308.4	41.9	
400.0	24097.	-29.1	-40.5	32.	311.3	55.8	
350.0	27179.	-36.4	-47.2	31.			

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LONG DEG

SIGNIFICANT LEVEL DATA

0470320010

LAMA

TABLE 13

STATION ALTITUDE 4173.44 FEET MSL
7 MAR. 84 1036 HRS MST
ASCENSION NO. 10

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
978.9	4173.4	10.9	-6.5	29.0
877.5	4432.0	8.7	-11.2	23.0
750.0	5076.7	6.9	-10.8	27.0
791.1	4993.9	1.2	-12.2	36.0
768.0	7775.3	.2	-20.1	20.0
752.2	8321.9	-.3	-21.1	19.0
728.4	9171.9	3.1	-20.2	16.0
700.0	10227.2	1.8	-20.6	17.0
500.0	18328.3	-17.3	-14.3	21.0
473.2	20176.4	-21.0	-15.4	26.0
416.0	21267.1	-27.4	-76.6	41.0
400.0	24191.9	-29.6	-17.3	47.0
384.7	24943.9	-30.7	-19.1	43.0
332.7	28460.6	-38.8	-46.6	43.0

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

UPPER AIR DATA
U70320010
LAMA
TABLE 14

STATION ALTITUDE 4173.44 FEET MSL
7 MAR. 64
1034 HRS MST
ASCENSION NO. 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
4173.4	878.8	10.8	29.0	1076.4	657.0	240.0	2.9	1.000257
4500.0	868.3	8.5	23.4	1072.7	654.2	247.4	2.6	1.000251
5000.0	852.4	7.1	26.5	1059.3	652.6	262.7	2.2	1.000249
5500.0	836.6	5.6	29.0	1044.2	650.9	262.5	2.0	1.000246
6000.0	821.1	4.2	31.3	1030.3	649.1	303.3	2.1	1.000242
6500.0	805.9	2.7	33.7	1014.6	647.4	320.5	2.4	1.000239
7000.0	790.9	1.2	35.9	1003.2	645.6	332.9	2.9	1.000235
7500.0	776.1	.6	35.6	987.0	644.8	333.2	4.5	1.000228
8000.0	761.5	-.0	19.6	970.6	644.0	332.8	6.2	1.000222
8500.0	747.1	.4	16.4	950.9	644.5	315.2	8.2	1.000218
9000.0	733.1	2.4	16.6	926.3	646.9	301.7	10.8	1.000212
9500.0	719.4	2.7	16.3	909.0	647.2	296.8	12.4	1.000208
10000.0	706.0	2.1	15.8	893.1	646.5	294.4	13.4	1.000205
10500.0	692.6	1.2	17.1	878.9	645.5	296.4	13.4	1.000202
11000.0	679.2	.1	17.4	865.4	644.2	301.8	12.8	1.000198
11500.0	666.0	-1.0	17.6	852.1	642.8	307.1	12.3	1.000195
12000.0	653.1	-2.1	17.8	839.1	641.5	311.4	12.0	1.000192
12500.0	640.4	-3.2	15.1	826.2	640.2	314.3	12.3	1.000189
13000.0	628.0	-4.4	15.3	813.6	638.9	313.6	14.1	1.000185
13500.0	615.9	-5.5	12.5	801.1	637.5	311.9	15.8	1.000182
14000.0	603.9	-6.6	12.8	788.9	636.2	308.9	17.6	1.000179
14500.0	592.2	-7.7	19.0	776.9	634.9	306.3	19.1	1.000177
15000.0	580.8	-8.8	19.2	765.1	633.5	306.3	20.1	1.000174
15500.0	569.5	-9.9	19.5	753.4	632.2	306.0	21.1	1.000171
16000.0	558.5	-11.0	19.7	742.0	630.9	307.3	22.7	1.000168
16500.0	547.7	-12.1	19.9	730.7	629.5	308.4	24.4	1.000165
17000.0	537.1	-13.2	20.1	719.6	628.2	305.5	26.1	1.000163
17500.0	526.7	-14.4	20.4	708.7	626.8	310.6	27.9	1.000160
18000.0	516.5	-15.5	20.6	698.0	625.5	310.7	28.6	1.000158
18500.0	506.5	-16.6	20.9	687.5	624.1	310.5	29.1	1.000155
19000.0	496.5	-17.8	21.6	677.1	622.6	308.7	29.8	1.000153
19500.0	486.5	-19.1	23.5	667.0	621.0	306.4	30.6	1.000150
20000.0	476.6	-20.5	25.3	657.1	619.3	303.9	32.6	1.000148
20500.0	466.9	-21.7	27.6	646.6	617.9	301.4	35.2	1.000146
21000.0	457.2	-22.7	30.0	635.8	616.6	300.3	38.0	1.000143
21500.0	447.8	-23.7	32.4	625.3	615.3	299.4	40.8	1.000141
22000.0	438.6	-24.8	34.9	615.0	614.0	299.0	43.3	1.000139
22500.0	429.5	-25.8	37.3	604.8	612.8	298.7	45.5	1.000136
23000.0	420.7	-26.8	39.7	594.8	611.5	299.1	47.8	1.000134
23500.0	411.9	-28.0	42.5	585.1	610.1	300.0	49.9	1.000132

STATION ALTITUDE 4173.44 FEET PSL
 7 MAR. 84
 ASCENSION NO. 10

UPPER AIR DATA
 0470320010
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GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15446 LONG DEG

TABLE 14 CONT'D

GEOMETRIC ALTITUDE PSL FEET	PRESSURE MILLIBARS	TEMPERATURE °F	TEMPERATURE °C	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	403.3	-79.1	-77.1	45.8	575.6	608.6	101.0	51.7	1.000130
24500.0	394.8	-78.0	-76.0	45.4	565.5	607.5	102.2	53.0	1.000127
25000.0	386.4	-76.7	-74.7	43.0	555.2	606.6	103.1	54.0	1.000125
25500.0	378.1	-75.4	-73.4	43.0	545.9	605.1	103.7	54.7	1.000123
26000.0	370.0	-74.1	-72.1	43.0	536.8	603.7	103.9	55.6	1.000121
26500.0	362.0	-72.8	-70.8	43.0	527.8	602.2	103.8	56.7	1.000119
27000.0	354.2	-71.4	-69.4	43.0	519.0	600.7	102.1	49.1	1.000116
27500.0	346.6	-70.6	-68.6	43.0	510.4	599.2			1.000114
28000.0	339.1	-69.6	-67.6	43.0	501.9	597.7			1.000112

STATION ALTITUDE 4173.44 FEET MSL
 7 MAR. 84
 ASCENSION NO. 10

"AMBIATORY LEVELS"
 UA7032001"
 LAMA
 TABLE 15

GEODETTIC COORDINATES
 33.13510 LAT DEG
 106.15446 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS	
851.0	5073.	6.9	-10.8	27.	265.4	2.1	
800.0	6697.	2.1	-11.0	45.	325.9	2.6	
750.0	8292.	0.0	-21.0	19.	310.3	7.7	
700.0	10210.	1.9	-20.6	17.	291.5	13.8	
650.0	12162.	-2.4	-24.5	18.	312.0	11.9	
600.0	14220.	-7.0	-26.7	19.	307.7	18.4	
550.0	16434.	-11.9	-30.3	20.	308.3	24.2	
500.0	18903.	-17.3	-34.3	21.	309.6	29.5	
450.0	21361.	-23.5	-35.5	32.	299.6	40.1	
400.0	24157.	-29.6	-37.3	47.	301.5	52.1	
350.0	27241.	-36.1	-44.1	43.	300.6	43.9	

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

SIGNIFICANT LEVEL DATA
0670210010
PITA
TABLE 16

STATION ALTITUDE 4196.74 FEET MSL
7 MAR. 84 1036 HRS MST
ASCENSION NO. 10

PRESSURE (GEOMETRIC ALTITUDE) MILLIBARS MSL FEET	TEMPERATURE		REF. HUM. PERCENT
	AIR DIGREES	DEWPOINT CENTIGRADE	
878.8	6.3	-4.2	41.0
877.8	8.0	-3.9	40.0
850.0	6.0	-9.8	31.0
789.9	.7	-11.6	39.0
780.1	.2	-17.9	24.0
754.7	.0	-22.1	17.0
723.0	2.7	-21.3	15.0
700.0	1.8	-21.3	16.0
609.0	-17.8	-24.7	21.0
465.7	-22.5	-35.9	28.0
424.8	-27.2	-36.9	39.0
412.1	-29.1	-37.7	43.0
404.7	-30.2	-37.2	50.0
300.0	-30.7	-38.1	48.0
295.3	-30.9	-38.9	45.0
248.7	-37.1	-45.2	42.0

STATION ALTITUDE 4116.74 FEET MSL
7 MAR. 94 1036 HRS MST
ASCENSION NO. 10

UPPER AIR DATA
JAF02100111
015A
TABLE 17

GEODETIC COORDINATES
31.18295 LAT DEG
102.15114 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CELSIUS	WET-BULB PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4186.7	878.8	9.3	41.0	1085.6	654.2	10.0	46.6	1.000273
4500.0	862.7	8.0	37.1	1074.7	653.7	8.9	39.1	1.000256
5000.0	852.8	6.7	31.9	1061.7	651.7	5.8	27.1	1.000251
5500.0	836.9	4.9	22.7	1047.3	650.0	157.9	15.4	1.000247
6000.0	821.4	3.5	10.6	1032.9	648.4	114.0	5.4	1.000244
6500.0	806.1	2.2	11.1	1018.7	646.8	105.0	3.4	1.000240
7000.0	791.1	.8	11.6	1004.8	645.2	145.5	2.7	1.000237
7507.0	776.2	.2	18.5	989.7	644.3	140.2	3.5	1.000227
8000.0	761.6	.1	20.8	970.6	644.1	130.6	4.6	1.000222
8500.0	747.3	.6	21.9	950.5	644.7	111.5	7.7	1.000217
9000.0	733.3	1.8	21.5	928.6	646.2	103.0	10.5	1.000212
9500.0	719.6	2.6	15.1	908.6	647.1	296.8	12.5	1.000208
10000.0	706.1	2.0	15.7	893.4	646.5	293.5	13.1	1.000205
10500.0	692.7	1.2	17.7	879.1	645.5	291.9	12.6	1.000201
11000.0	679.2	.0	22.4	865.7	644.1	296.3	11.1	1.000198
11500.0	666.1	-1.1	23.2	852.5	642.7	103.3	10.1	1.000195
12000.0	653.2	-2.2	23.9	839.5	641.4	110.6	9.8	1.000192
12500.0	640.5	-3.4	17.3	826.7	640.0	113.3	10.5	1.000188
13000.0	628.1	-4.5	17.6	814.1	638.7	112.8	12.2	1.000185
13500.0	615.9	-5.7	17.9	801.8	637.3	111.2	14.4	1.000182
14000.0	604.0	-6.8	18.2	789.6	635.9	108.4	16.6	1.000179
14500.0	592.3	-7.9	18.5	777.6	634.6	106.3	18.2	1.000177
15000.0	580.8	-9.1	18.8	765.9	633.2	104.6	19.0	1.000174
15500.0	569.5	-10.2	19.1	754.3	631.8	104.8	19.3	1.000171
16000.0	558.5	-11.4	19.4	742.9	630.4	105.9	20.0	1.000168
16500.0	547.6	-12.5	19.6	731.7	629.1	107.0	21.7	1.000166
17000.0	537.0	-13.6	19.9	720.7	627.7	110.0	24.2	1.000163
17500.0	526.6	-14.8	20.2	709.8	626.3	111.4	26.2	1.000160
18000.0	516.4	-15.9	20.5	699.2	624.9	112.4	26.6	1.000158
18500.0	506.4	-17.1	20.8	688.7	623.5	111.6	26.8	1.000155
19000.0	496.4	-18.3	21.7	678.3	622.0	110.1	27.4	1.000153
19500.0	486.3	-19.6	23.7	668.1	620.4	105.1	28.8	1.000151
20000.0	476.5	-21.0	25.8	659.1	618.7	105.3	30.3	1.000148
20500.0	466.8	-22.3	27.8	648.7	617.0	102.4	32.1	1.000146
21000.0	457.1	-23.4	30.2	637.6	615.7	100.2	34.1	1.000144
21500.0	447.7	-24.5	32.7	627.1	614.4	299.0	36.4	1.000141
22000.0	438.4	-25.0	35.2	616.8	613.0	298.4	38.3	1.000139
22500.0	429.4	-26.7	37.7	606.7	611.7	298.0	39.8	1.000137
23000.0	420.4	-27.8	40.4	596.9	610.2	297.6	40.7	1.000135
23500.0	411.6	-29.2	43.5	587.6	608.6	298.7	42.5	1.000132

UPPER AIR DATA
0670210010
RITA
TABLE 17 CONT'D

STATION ALTITUDE 4126.74 FEET MSL
7 MAR. 84 1036 HRS MST
ASCENSION NO. 10

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIR(FCTN) DEGR(FCTN) SPEED KNOTS	INDEX OF REFRACTION
24000.0	402.9	-70.4	-77.5	578.1	607.1	700.7	1.000130
24500.0	396.4	-71.0	-79.0	567.3	606.3	702.8	1.000128
25000.0	395.9	-72.1	-40.1	557.6	604.9	703.2	1.000125
25500.0	377.7	-33.2	-43.2	549.1	603.6	703.8	1.000123
26000.0	369.5	-34.2	-42.3	538.8	602.2	704.4	1.000121
26500.0	361.6	-35.3	-43.4	529.6	600.9		1.000119
27000.0	353.9	-36.4	-44.5	520.6	599.5		1.000117

STATION ALTITUDE 4186.74 FEET PSL
7 MAR. 84 1036 HRS MST
ASCENSION NO. 10

MANDATORY LEVELS
047021001
DATA
TABLE 18

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	5084.	6.0	-9.8	31.	5.0	25.1
800.0	6700.	1.5	-11.3	38.	318.9	3.0
750.0	8190.	.4	-22.0	17.	313.9	7.0
700.0	10222.	1.8	-21.7	16.	292.4	13.0
650.0	12166.	-2.5	-24.1	17.	311.6	10.0
600.0	14231.	-7.2	-27.2	18.	307.3	17.7
550.0	16434.	-12.2	-30.7	20.	307.7	21.5
500.0	18799.	-17.9	-34.7	21.	310.9	26.9
450.0	21351.	-24.3	-36.3	32.	299.2	35.8
400.0	24133.	-30.7	-38.1	48.	301.5	44.8
350.0	27207.	-36.9	-45.1	42.		